

# THE CHEMIST

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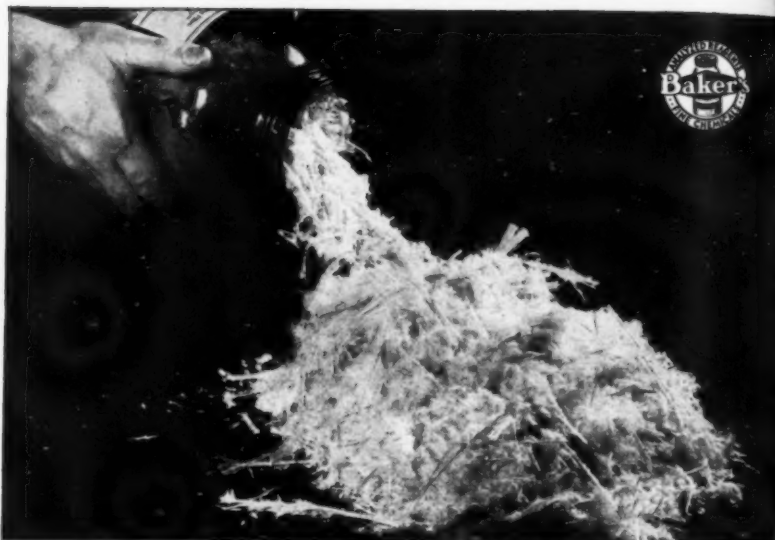
UNIVERSITY OF GEORGIA  
VOLUME XXIV, No. 7

JULY, 1947



**DR. E. H. VOLWILER**

(See page 296)



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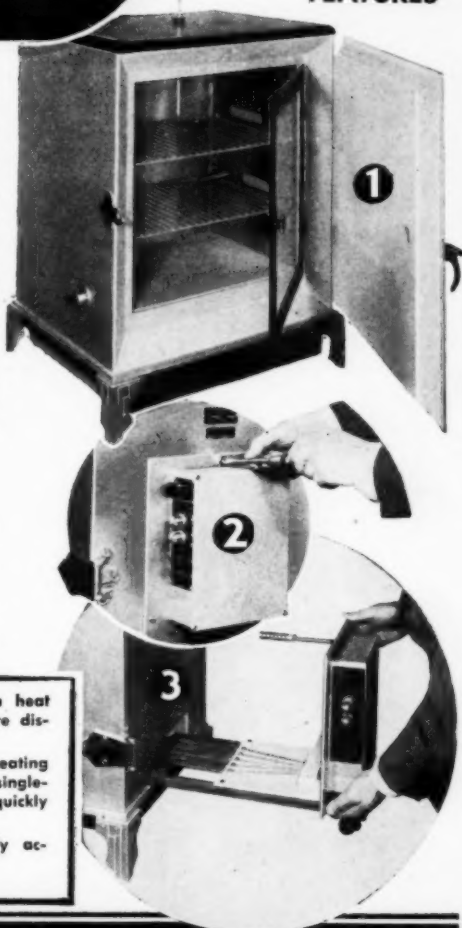
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# *The Chemist*

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## IN THIS ISSUE

<b>Objectives of the A.I.C.</b> .....	<b>264</b>
<b>The Professional Status of the Chemist in the United States</b> .....	<b>265</b>
<b>The Professional Status of the Chemist in Canada</b> .....	<b>273</b>
<b>The Professional Status of the Chemist in Great Britain</b> .....	<b>277</b>
<b>Our Authors</b> .....	<b>286</b>
<b>Our Annual Meeting</b> .....	<b>288</b>
<b>Memorandum Regarding H.R. 2520 — The Michener Bill</b> .....	<b>294</b>
<b>Volwiler Awarded Honor Scroll</b> .....	<b>296</b>
<b>Council</b> .....	<b>297</b>
<b>Chapters</b> .....	<b>299</b>
<b>Comment</b> .....	<b>300</b>
<b>We Must Stimulate Basic Research</b> .....	<b>306</b>
<b>Booklets Available</b> .....	<b>309</b>
<b>Chemical Condensates</b> .....	<b>311</b>
<b>Professional Services</b> .....	<b>310, 312</b>

### SCHEDULED FOR EARLY ISSUES OF THE CHEMIST:

Panel Discussion on "Opportunities in Chemistry Outside of the Laboratory", by nine contributors.

"Organizing a Research Department" by Dr. Johan Bjorksten, F.A.I.C.

"What Younger Men Expect the A.I.C. to Do", by C. P. Neidig, M.A.I.C.

"Early History of the A.I.C.", by Dr. Lloyd Van Doren, Secretary A.I.C.

Report of the Committee to Consider National Science Foundation Legislation.

Report of the Chicago A.I.C. Chapter Committee on Professional and Economic Status.

Other articles of professional interest.

# Objectives of the American Institute of Chemists

## To:

Provide and enforce a code of conduct which merits public esteem and justifies confidence in the integrity of the chemist;

Establish and maintain a standard of proficiency of such excellence as to insure competent and efficient service;

Secure an adequate basic training for the profession, and admit to fellowship in the Institute only those of proved education, experience, competency, and character;

Strive to enhance the prestige and distinction of the profession so as to extend its influence and usefulness;

Establish and maintain a register of its membership in which there will be a complete record of the training, experience, and fitness for service of each individual member;

Seek to improve the economic status of the profession by cooperating with employers and the public to secure a satisfactory appreciation and evaluation of the services of the chemist;

Provide a means for the appropriate recognition of distinguished service to the profession;

Cooperate with all agencies serving chemistry to make the profession of chemistry a powerful factor in the advancement of intellectual and material progress in the United States of America, to the end that this nation shall assume its rightful place as a leader among the nations of the world in scientific thought and accomplishment;

Lend support to the work of the chemical societies in the education of the public to a better appreciation of the contribution of the chemist to world progress; and

Render such other services to the profession as developments shall warrant and The American Institute of Chemists shall approve.

# The Professional Status of the Chemist in the United States

Dr. Clifford S. Rassweiler

*Vice-President, Research and Development, Johns Manville Company  
(The following three papers were presented at the A.I.C. Annual Meeting)*

THE status of any group of people is difficult to evaluate, because it is a composite of so many different factors, ranging from monthly earnings to social prestige, and, unfortunately, very few people, even a special group, can agree upon the relative importance of these different factors. When one comes to analyze the status of chemists, the problem is still further complicated by the large number of different kinds of chemists and the amazingly wide variety of ways in which they earn their living. Nor can one simplify this problem by attempting to draw an arbitrary distinction between chemists and chemical engineers because, in practice, this distinction cannot be clearly maintained, and one of the great strengths of our profession lies in the fact that the theoretical and the practical branches of our science have remained closely integrated instead of becoming split as physics has become separated from practical engineering.

When one discusses the status of doctors, he ordinarily limits himself not only to those who have received

medical training, but also largely to those who are directly or indirectly concerned with healing the sick or injured. Similarly, in discussing the status of lawyers, one ordinarily limits oneself to that group of people actually practicing law. In the case of the chemist, however, one cannot limit himself to that group of people who are actually dealing with chemical reactions or chemical processes, for many men and women with chemical training, who are commonly considered as active and important members of the profession, do not carry on nor direct a single chemical operation from one year's end to another.

It is proper, therefore, that we should start by considering the ever-widening diversity of opportunities which are opening in this country to men and women with chemical training. This is an important factor in the chemist's position, for it is the index of the number of different places where he has been able to demonstrate that specialized training in chemistry makes it possible for him to perform a task or accomplish an

objective more effectively than a man without this training. The more places this can be demonstrated, the more chance the chemist has to find employment which will be pleasant and satisfy his personal desires, and constantly broadening opportunities for employment have an important bearing on the financial return which members of the profession can expect to achieve as compensation for their special training.

### **Increased Opportunity In Chemical Industry**

One of the reasons for this broadening opportunity is the growth of the chemical industry itself in this country. Not only are the companies which are carrying on chemical reactions growing constantly in size, but also there are an increasing number of businesses which depend more and more upon the carrying on of conscious chemical reactions. The growth of the dyestuff industry following the first world war; of the plastic producing industries during the 1930's, and of synthetic rubber and chemical operations in the petroleum industry during this war are obvious illustrations of the increasing number of places where industry is dependent upon conscious chemical reaction for its success. This dependence means a constantly broadening area of opportunity for men with chemical training and experience.

Quite apart from the true chem-

ical industry which carries on conscious chemical reactions, another field of opportunity has been opened up to men with chemical training by research in industries which do not depend primarily on the carrying on of chemical processes, but where the chemist's training in the relationship of composition to physical properties gives him an important advantage over men without this training. If one were to attempt a broad definition of chemistry today, he might ignore chemical reactions and describe chemistry as that science which is concerned with the relationship between composition and properties as opposed to the science of engineering, which is concerned with the relationship between structure or form and performance. There are a good many industries where product properties are controlled by composition and where improvements are dependent upon variations in composition, but where these variations are accomplished either by simple mixing or by types of processing which may create chemical changes, but where the changes are of so complex or of so indefinite a nature that they are not subject to examination by the application of ordinary chemical formulas. These industries for many years were run on a rule of thumb basis and any experimenting was of an empirical nature. When the heads of these industries began to realize that the solution of their problems had to

be approached more scientifically, they turned to chemists to staff their research organizations because there was no other scientific training which qualified men for thinking scientifically about the relationship between composition and properties. It is to the credit of the chemists that they grasped this opportunity and adapted themselves and their science to the solution of industrial problems for which their formal schooling gave them little or no specific preparation. As a result, we see chemists firmly entrenched in control of such research activities as paint formulating, rubber compounding, tanning, and similar activities, which either do not involve chemical reactions or in which the processes are far removed from the exact chemical science involved in the manufacture of dyestuffs and heavy chemicals.

The pressure of competition and the success of scientific research in those industries where the application of science is most obvious have shown that even the most practical and commonplace problems can frequently be solved best by the principles of scientific analysis and experimentation. Such industries, in looking for scientists to staff their laboratories, have found no one specifically trained in what might be called the science of research or the science of solving practical problems by the scientific method. To a very considerable extent these industries have turned to

the chemical profession to find men with enough versatility of interest and ability to explore these virgin fields and to develop scientific techniques for solving what seem to be essentially unscientific problems. Many of these fields would seem more logically approached by engineers than by chemists, but the split between physics and engineering has widened to a point where the physicist is uninterested in anything less lofty than cosmic rays and atomic fission while the engineering professions have largely failed to emphasize the experimental method, so that in industry today when you find a problem like the proper distribution of stock in the chest of a paper machine or the proper distribution of white veneer on an asbestos shingle, the chances are almost nine in ten that you will find a chemist solving the problem which is far removed from the classic conception of chemistry.

The willingness and ability of chemists to apply the scientific method to any type of problem and the recognition that so many problems involve a relationship between composition and properties have thus led the chemist into a wide variety of fields and have greatly expanded the opportunity for profitable employment to the members of the profession. In one sense, there is developing a science of industrial research or the science of solving practical problems by scientific methods. The fact that

chemists have more or less monopolized this new and growing science is one of the most important factors in the steadily improving status of chemists in this country.

### **Recognition of the Chemist As Executive**

Closely related to this growing diversity of opportunity is the increased stature and reputation of the chemist as a business man. Not so many years ago, a typical company executive would have felt that a chemist who had business ability was too important to leave in a laboratory and that, if a man wanted to remain a chemist, he obviously could not possibly have good business judgment. This has changed so far that now even some sales managers are willing to give respectful attention to the opinion of chemists on matters which are of a commercial rather than a technical nature. This change has come by the intelligence and broad viewpoint which many chemists have demonstrated in their relationship with the commercial divisions of their companies. However, it has been accelerated by two developments.

The first is the fact that research has itself become big business. Research organizations spending one, two, three and more million dollars a year are now commonplace rather than unusual in the industrial field. Obviously, the running of such large organizations and the expenditure of

such large sums of money demand business intelligence and business judgment of the highest order. As a result, it has become important in large companies to keep men in scientific work who have not only sound scientific training and the kind of scientific ability which will command respect from scientific men, but also the capability of developing the broad business judgment necessary for operating a large modern research organization. Obviously, also, men who have the business ability necessary to head large organizations like the Bell Laboratories, The Standard Oil Development Company, General Motors Research, and similar organizations are respected as business men by people who a few years ago thought of chemists as having long hair and prima donna temperaments.

The second development grows from the fact that under present conditions of research competition, a larger and larger percentage of any company's business is being done with products of recent development. This rapid obsolescence of old products and their replacement with new ones make it impossible to plan a company's commercial future without a considerable amount of dependence upon the advice and judgment of the men charged with the responsibility of developing these new products. It used to be that the research director or the chief chemist was called into consultation only when the men who

## ... THE CHEMIST IN THE UNITED STATES

governed company policy wanted to ask a specific technical question. Now it is much more common for the research director to be an executive vice president of the company and a constant and active member of the company's planning and policy making group. The opportunity thus given chemists to participate in the day-to-day planning of a company's commercial future has led to the further realization that scientific methods of analysis and thinking often lead to a new and important viewpoint on some of the company's problems which are purely commercial rather than technical.

Both of these developments have materially advanced the chemist's status as a business man and opened up to him possibilities of direct advancement into high-salaried positions. It used to be that any chemist who hoped to achieve a major executive position in his company had to plan at some point to transfer to either the sales or the production department, but now there are a number of instances where the presidents of large companies have been selected directly from the technical side of the business.

### The Chemist As Citizen

While we are talking about the broadening of the chemist's viewpoint beyond matters of purely scientific interest, it is worthwhile to consider the status of the chemist as a citizen and a politician. Perhaps it is primarily

as a result of the world's fears concerning atomic bombs, but at any rate for the first time in history the opinions of top ranking scientists on political affairs are front page news in our newspapers, and delegations of scientists, including, of course, chemists, are listened to with sober attention by Congressional Committees in Washington. At the moment, to be sure, these men are being consulted primarily on matters of a technical nature, but just as business men have come to value the scientific type of thinking as applied to commercial problems, we may yet see the time when our lawmakers in Washington may be listening with respect to the opinion of chemists and scientists in general on matters of national interest not so directly connected with such things as atomic fission.

All of these factors have an important influence on the status of the chemist as an educator, and it is not surprising that chemists in our educational institutions have found a broadening opportunity and greater recognition in educational fields. As the science has broadened they have met the challenge by a broader approach to the teaching of chemistry and this, together with the increasing size of the chemistry departments, has given them a chance to achieve greater recognition and in many cases has led to important educational opportunities outside of the true chemical profession.



We come now to that sensitive and complicated question of the status of the chemist as a professional man. There is a widespread desire on the part of chemists to be linked in the public's mind with doctors and lawyers as some sort of a special professional caste. Before one can analyze the chemist's progress in this direction, one must decide just what it is that sets a professional man apart from other men of equal education, ability, and character.

Some professions are recognized as occupying a special status, because of the general recognition that the men in these professions are placing service to society in some way or other ahead of their desire for personal gain. This is recognized, for example, by the fact that the local minister and the head of the local education system are likely to be found on the lists of the town's social clubs as honorary members. There is nothing in the present clamor for higher salaries to indicate that chemists as a group desire professional distinction in this sense.

Other professions owe their special distinction to the fact that their professions are committed to special service to others. For example, the honor accorded the professional status of the doctor is based upon the long history of men who have disregarded their personal convenience and comfort to go out in all weather and at

all times of night to the aid of the sick and the injured. It would seem that chemistry is not likely to gain a preferred professional status in this way.

Still other professional groups owe their professional distinction to the fact that the service they offer to the public can only be performed by men with a highly specialized training. This, for example, is the distinction of the lawyer. This distinction is particularly emphasized when the Government feels it necessary to protect the public by licensing or certifying those capable of properly performing the service they offer. It is quite possible that certain branches of the chemical profession may gain this distinction and perhaps even desire or require this type of Government certificate, but the tendency of chemists to branch out into such a wide diversity of activities makes it unlikely that this type of professional distinction will be achieved by the majority of the profession. "You cannot eat your cake and have it too" and, if the chemist is willing and able to demonstrate that he can do a practical job better than a man without chemical training, he is going to be so directly in competition with men who do not have specific chemical training that it is hard to draw a fast line and say that the things the chemist does can only be done by men with a chemical education.



### The Chemist's Professional Status

In one sense, however, professional status represents simply public recognition that men with certain specialized training, engaged in certain scientific pursuits, are making an outstanding contribution to the advancement of our civilization and to the welfare of our country. In this respect I do not believe that the chemist has been achieving professional status. It is true, of course, that the glamor and the respect which the science of chemistry is receiving from the public frequently fails to shed very much reflected glory on the individual chemist, and the citizen is more likely to associate the accomplishments of chemistry with some vague research center in a distant state than he is to associate it with the man who rides to work with him in the morning on the trolley. Recognition on a local basis must come, to a considerable extent, from local activities and publicity, and the growing strength and importance of local scientific groups should be a distinct aid in this direction.

I have kept for the last the question of the chemist's economic status, partly because to each one of us this is the most immediate, and in some ways, the most important question involved in the status of our profession, but also because the factors that have already been discussed have a very important bearing on the chem-

ist's future economic status, which should be fully as important to us as his present status under today's inflation condition.

Extensive analyses have been made and published on the earnings of chemists. It is unquestionably true that the chemist's economic status improved very little during the 1930's but has improved very rapidly since 1940. One has only to realize that the starting salaries, now being offered chemists coming from our colleges, are approximately twice what they were before the war to appreciate that something very radical has happened to industry's evaluation of a chemist's worth.

However, it is highly important that we examine rather closely the causes for this rapid change in the dollar value placed upon the chemist's time. We are undoubtedly dealing with a scarcity market just at a time when the war and technical developments have made the public and business look upon scientists with something almost approaching the attitude of the ancient toward magicians and astrologers. It is difficult to determine how much of the improved economic status is the result of this scarcity market and inflation generally, and how much is based upon a sound recognition that industry was not paying chemists a proper return before the war. It is well to consider the question as to how long the chemist can maintain the disproportionate

advance he has made financially over university educated white collar workers in other types of endeavor. I think we all hope that when the situation is balanced we will see the other university people coming up to meet the chemist's new salaries, but, at the same time, it would be most unfortunate if our younger chemists were to establish habits of thinking regarding living standards and salaries which were based on an improper evaluation of the factors lying behind some of the salary offers now being freely made.

In considering this question of the chemist's status, nothing is more interesting than the change which has taken place in what the chemist wants his status to be. When I was in college the old song, "I'm a rambling wreck from Georgia Tech" was a mild expression compared with the roughness and the toughness which we associated with an ideal member of the chemical profession. Perhaps it is because I am becoming older and associating with older men that I have a feeling that today the chemist's aspirations are more closely related to the cartoonist's conception of the prosperous banker than to "a rambling wreck". Perhaps, in fact, neither of these extremes is truly representative of the chemist's aspirations, for I know I was much more interested in my own secret ambition to sometime earn \$5,000 a year than I was in being the hard-boiled indi-

vidual about whom we talked so loudly.

Certainly, however, there is a widespread aspiration on the part of chemists for recognition as professional men and this must reflect a desire to achieve for the profession dignity and public esteem. It should be recognized that this can only be gained as the numbers of the profession over a period of years, individually come to be recognized by their associates as adhering to a high level of integrity and performance.

Public recognition of a group's professional status can only be gained by demonstrating that the individuals in the group are making an outstanding contribution to the good of the community and the country. Much of our own effort in this direction will benefit only those who come after us. I have tremendous confidence in the young chemists who are now swelling our ranks and I am confident that they can make the status of this profession whatever they honestly and sincerely want it to be.

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Dr. Charles R. Downs, F.A.I.C., and Dr. J. Henry Rushton presented a paper entitled "Production and Use of Oxygen," at a meeting of the Technical Section of the Joint Production and Chemical Committee Conference of the American Gas Association, held in New York, N. Y., June 4th.

# The Professional Status of the Chemist in Canada

**Dr. R. R. McLaughlin**

*Head of the Department of Chemical Engineering, University of Toronto*

IT IS natural for a Canadian to find himself sandwiched between a Briton and an American, either on a program such as this, or almost anywhere else; it is, moreover, a very comfortable position, for the only pressure one feels is that of a friendly handclasp in either direction. This idea is more than symbolic. It has its practical aspects as well, and application to the subject under discussion. With strong ties of history and sentiment, Canadians look to the pattern developed in Great Britain for guidance and experience along certain lines; with common occupancy of a continent in daily friendly relations in business, in holidays and with much intermarriage, Canadians look to the United States for guidance and experience along these same lines, but under conditions that are perhaps more immediately similar. And finally, we seek to fuse the ideas from these two great sources with some contribution, we hope, of our own, into a procedure that best suits, in our opinion, the Canadian scene.

The reason we are able to adopt

this rather leisurely approach is that, in many instances, need for a particular development has appeared later in Canada than in the United States or Great Britain. There are many reasons for this which need not be discussed here, though it might be added that the time interval is steadily diminishing. As illustrative of these points, we may note that the Chemical Society is celebrating its Centenary this year, that the American Chemical Society was founded in 1876, and that the first chemical organization in Canada was the Canadian Section of the Society of Chemical Industry, founded in 1907. And we may also note, as illustrative of how the time element diminishes, in some instances to zero, the simultaneous cooperative chemical development in Great Britain, the United States, and Canada, during the war.

Without pausing to define what is meant by a profession, one may note that the religious, medical and legal professions come to us from antiquity, no doubt because they serve man's more fundamental, or at least more

primitive, needs. They were early recognized as professions, because of the person-to-person relationship that exists in them all; and because they represented unusual scholarship in a relatively ignorant community. Much more recently, but still a considerable time ahead of chemistry, engineering has emerged as a profession. Almost devoid, by comparison with the others, of a person-to-person relationship with the public, its fruits are never-the-less much in the public eye, making the public more and more aware of the profession lying back of them. An indication of this is the fairly frequent reference to World War II as an "Engineer's war". On the other hand, the general level of education has risen so much since the establishment of the earlier and almost traditionally designated "learned" professions, that the public is slow to accord this adjective to the newer professions that equally well deserve it.

The advent of chemistry as a profession is still more recent than engineering; it is still less personal in its relation to the public; its fruits are less obvious, and it has arrived amidst a still higher level of education, all factors tending to hinder its recognition as a profession. Moreover, chemists have invented and used, for convenience, a foreign language, and either through mental laziness, or a form of intellectual snobbishness, or failure to recognize the need, very often do not translate it when talking

to laymen. And there is a final difficulty in establishing the professional status of the chemist at a satisfactory level. Owing partly to the nature of the work and partly to the relative absence of personal relationships in the work that would call for safeguards against inadequate performance, it is neither easy to draw the line between lower grades of professional work and the work of technicians, nor easy to convince the public which buys such services that such a line needs to be drawn.

### **The Criteria of a Profession**

One of the criteria of a profession is the number engaged in it relative to the society it serves, for if the number is very small, it is rather difficult to maintain that a profession exists, whatever may be one's private opinion of the worthiness of one's calling. In 1914, when the need for chemists developed rapidly as a result of Canada's entry into the war of 1914-1918, there were only about one hundred chemists in Canada, and very few chemical engineers, for the first chemical engineering course in Canada had been established in the University of Toronto only in 1906 and had graduated by that time only a few students. As a contrast, in 1939 at the beginning of the recent war when Canada again had to mobilize her resources, and when the War-time Bureau of Technical Personnel was established to assess and control the technical men of the country, it

was found that there were about 6000 qualified chemists and chemical engineers in Canada. Clearly, then, the criterion of numbers is satisfied and the number in Canada is, I should judge, proportional to the numbers in the United States and Great Britain.

Another criterion of the status of a profession is the calibre of the professional society that represents it, for, since it must be supported by and run by members of the profession, it reflects their opinion of its value and importance. Here, a significant development has taken place in Canada during the past three years. Previously there were three chemical organizations, with a total membership of about 1800, allowing for the very large, about eighty per cent, degree of overlap. This was unsound and uneconomic from every point of view, and it was corrected by the formation of the Chemical Institute of Canada. The principles of the foundation of the Chemical Institute of Canada are that a natural division of society is formed by professional chemists, chemical engineers, and those who, though not themselves chemists or chemical engineers, are engaged in chemical industry; and that these people should be accommodated in one, efficient national organization. The inclusion of chemists and chemical engineers in one body is, to my mind, sound; for, except at the extremes, these two classes of technical men have so much common ground

that their subdivision in a country the size of Canada seems artificial. A few members of the previously purely professional body viewed with alarm the inclusion of representatives of chemical industry who are not professional chemists or chemical engineers; but the vast majority welcomed them as a natural and strengthening part of the Institute. It was a simple constitutional matter to make the obvious provision that professional members should control purely professional affairs.

The reorganization appealed so much to reason that it was accomplished readily, and it is significant that today, less than two years later, membership is more than double (3700) what it was in the three organizations prior to amalgamation, and it is steadily increasing to the fraction one might reasonably expect from a potential of 6000. To the extent, then, that a strong and representative professional organization is a factor in the professional status of the chemist, Canadian chemists have taken a long step forward in the past three years.

Whether or not the professional and economic status of chemists would be improved by licensing is a question that is being actively debated by local sections of the Institute, because it will eventually be necessary for the Institute to establish a policy in this respect. Should licensing be desired, it will not be easy to effect it, be-

cause protective legislation and enforcement would have to be on a provincial, and not a national, basis; just as I understand it would have to be by State legislation here. This is expensive. Further, in eight of the nine provinces there are already Associations of Professional Engineers looking after the professional interests of the chemical engineering part of our membership. I hope to see such associations eventually broaden their bases of operations to include the legal professional interests of other scientists. To me, this is much more logical and economic than the establishment of provincial associations of professional chemists.

There is a development to which I want to make brief reference. Provisionally, engineers and chemists have much in common; also in the field they cover. This is true for physicists and other scientists. I believe the need is with us to have at the national level, and ultimately international, a body that can speak for professional scientists. I do not mean a "super-organization", but rather a correlation of existing professional bodies. The first step has been taken in Canada in this direction under the name of the Canadian Council of Professional Engineers and Scientists. It should be encouraged.

In Canada in the quarter century between the wars, a fundamental change in the professional status of the chemist has occurred. Formerly,

the chemist had to fight his way into an industrial plant and fight to stay there. Today, because the chemist has proved himself and because chemists now occupy important executive positions and do not need to be convinced of the value of technical men in industry, there is general appreciation of the professional chemist by industry. Thus, though recognition of professional standing by the public may lag, it has been achieved in industry, where it really counts.

Summarizing, one may say that the general development of the profession, the number engaged in it, the professional body representing it, its recognition by industry, all lead to the conclusion that the professional status of the chemist in Canada is at a satisfactory level on its way to a higher one.



Dr. E. A. Vuilleumier, F.A.I.C., has resigned as dean of Dickinson College, Carlisle, Pennsylvania, to devote his full time to his professorship of chemistry. He has been head of the Department of Chemistry at Dickinson College since 1920, and also served as dean of the college from 1933 to June, 1947. His successor as dean is Dr. Russell I. Thompson.

R. W. Seniff, F.A.I.C., has been appointed engineer of tests for the Gulf, Mobile and Ohio Railroad, Bloomington, Illinois.

# The Professional Status of the Chemist in Great Britain

**Dr. L. A. Jordan**

*Director, Paint Research Station, Teddington, Middlesex, England*

THERE are many ways of approaching this text. I elect to start from the thesis that to speak about the Professional Status of the Chemist in Great Britain is to comment on matters affecting the profession of chemistry as conditioned by the attitude of chemists to the science by which they live, the duties as well as the privileges enjoyed in its service.

We talk about status at intervals usually in short bursts as when the Professional Societies are worried about something or when the idea of a Chemistry House looms up again or maybe when someone more discerning than most feels that he ought to stir his fellow chemists into action on some particular issue.

I have had my own bursts of enthusiasm about the importance of organization and collective action, professional standards of qualification (including the Chartered Chemist idea which was rejected by the Institute of Chemistry of Great Britain some years ago which in effect would

have been a license to practice) and in particular the impact of chemists and chemistry on the man in the street, for after all else is said and done, it is on him representing the community that any question of status ultimately depends.

It is no escape to say that the community is incapable of exercising judgment because it is uninstructed—that is merely part of our problem. The people know well enough that apart from the war something very remarkable has affected most aspects of life and living during recent years, and that it is called science and technology; they also know about the great chemical industry and the rather all-pervading intrusion of chemical matters into many quite ordinary features of daily life including food. In England today people cannot easily obtain putty but many know and are somewhat surprised to realize that 10,000 tons of whiting go into bread. It is all rather mysterious and they are not quite sure how these things



happen or how the chemist works, or what the chemist is, or indeed whether he is wholly to be trusted.

Right from the start we in Britain suffer a severe handicap which you have escaped, namely the confusion between chemistry and pharmacy. Our dispensers of drugs are called chemists though they are controlled and can only function by qualification of the Pharmaceutical Society. The reason, merely that in our casual way we have allowed a vested interest (a money value) to develop in calling drug stores chemists' shops. In no other country does this confusion arise. Pharmacists have also that fine old term apothecary but contrariwise they prefer to use the title "chemist" which according to our law they are fully entitled to do.

It is certain that about 1700 there was no confusion for then there were chemists who studied natural science and there were pharmacists who dispensed medicines. During the nineteenth century several successive Acts relating to pharmacy and the sale of foods and drugs used the term "chemist and druggist within the meaning of the Act", but clearly it was not intended to deprive persons who practised chemistry in a wider sense of the use of the term "chemist". Then as recently as 1908, a Poisons and Pharmacy Act was passed which conferred on trading companies the right to use the word "Chemist", provided a qualified "pharmacist" was in charge. To

most people that sounds rather comical, but it is really very tragic: Why? One reason is that a pharmacist is a pharmacist because he is vetted and qualified by the Pharmaceutical Society which can, and does, speak for all pharmacists. That both the people and Parliament can understand. There was no one to speak for the other chemists then and I scarcely know who in Britain could really speak for chemists now. At any rate we know what we mean by chemists and we will stick to that. As professional men we look around among our fellows and what do we find? Do we see much change year by year?

There are still the good, bad and indifferent among those who practice chemistry. There are those who feel professional responsibility as a duty and trust, and delight to render service to the ideal; there are those who maintain their membership because it pays but all too often their input ends with payment of the dues; there are the disappointed ones lingering unhappily over what might have been; there are those tenacious ones, who seeing the need clearly, try to persuade their fellow chemists and other scientific men to take an interest in social problems and to look to the health of our body politic.

The same old arguments and questions about professional activities abound. At intervals someone is sure to ask, why are chemists so much



worse organized than lawyers, med-  
icos, or even engineers. I do not pro-  
pose to start all that again except for  
a word about engineers working  
alongside chemists in an industrial or-  
ganization.

An engineer is required, say, to de-  
sign a span. If he is a good engineer  
he will know what books and tables  
to consult in order to decide the sec-  
tion of steel required for the duty.  
Then provided the supports are equal  
to the crushing strain of the load he  
knows that the structure will stay  
"put".

Now the chemist—he achieves by  
putting things into pots and pans,  
turning on the steam and, may I say,  
hoping for the best. What really hap-  
pens? Who shall say? There is an  
extraordinary subtlety about chem-  
istry which is not easily understood  
by other than chemical minds (and  
here a chemical mind need not carry  
a chemical degree) a circumstance  
that provides both the entrancing  
pleasure of chemical philosophy and  
the great peril of chemical practice.

The lay managing director, of  
which we still have rather a high pro-  
portion in Britain, says that he can  
understand engineers but that chem-  
ists with the exception of so-and-so  
are quite impossible for they do not  
seem to really know what they are  
doing.

But what of so-and-so above men-  
tioned? He is obviously on the way  
to being successful—wherein lies his  
secret?

I sense that in industrial practice  
successful chemists are made and  
measured by their power of anticipat-  
ing events though at times some facil-  
ity in explaining why something has,  
or has not, happened is useful. In  
other words the successful man has  
acquired a background of knowledge  
and experience which gives him a  
sense of proportion and a right per-  
spective, and out of all those things  
together judgment is born. It is use-  
less to bewail the lack of this capacity  
when it does not exist or when it has  
become atrophied by neglect or by  
long and persistent concentration on  
detail. Nevertheless, therein lies the  
greatest weakness of the chemist and  
the chief obstacle to his taking high  
place in control of industrial develop-  
ment and in public life generally.

The curse of the chemist has al-  
ways been his narrow outlook, and  
speaking of Britain we are much too  
fond of adjectival labels. Further,  
and in spite of great endeavors to  
prevent it, there is still something of  
a gulf between the so-called academic  
chemist and the chemist who is really  
a technologist. Even the technol-  
ogist can be a philosopher about his sci-  
ence even if his main concern is a  
very practical objective.

For many and obvious reasons  
therefore, there is no one type prop-  
erly called chemist like John Bull or  
Uncle Sam; but for obvious reasons  
we must continue to talk about the  
'chemist' as an entity.

The short answer then is that man

is what he makes himself and chemists are no exception, though it may be observed in passing that chemists have not made too good a job of selling themselves to the general public whom they serve. Some people ascribe this to the fact that the rank and file are not exactly social beings, at least that is not a marked feature of their existence, but mainly to the view that they have not succeeded in organizing themselves as have other professions.

Trade unionism is, as you know, very strong in Britain, and you will frequently hear the workingman trade unionist, remark with a sort of scornful admiration that nobody can beat the doctors and the lawyers at the trade union game, the difference being that they manage to do it rather more artfully than the working man. This attitude, of course, is rather superficial and takes no cognisance of professional qualification, but many chemists and other scientific workers in Britain are members of organizations which adhere to the Trades Union Congress and presumably subscribe to all that trade unionism stands for at this day. I will not be tempted to say anything more on this subject beyond expressing the fear which I know is felt by many that these trends are inimical to a proper professional status.

I had started to say a little about the social background of chemists. Let us go back a bit in time.

This is what Paracelsus (1493-

1541) had to say: "For they are not given to idleness, nor go in a proud habit, or plush and velvet garments, often showing rings upon their fingers or wearing swords with silver hilts by their sides, or fine and gay gloves upon their hands, but diligently following their labors, sweating whole days and nights by their furnaces. They do not spend their time abroad for recreation, but take delight in their laboratory. They wear leather garments with a pouch and an apron wherewith they wipe their hands. They put their fingers amongst coals, into clay and filth, not into gold rings. They are sooty and black like smiths and colliers and do not pride themselves upon clean and beautiful faces".

You will agree that Paracelsus was friendly but otherwise about right. Somewhat later things must have looked up quite a bit for Robert Boyle (1627-1691) said: "Of late chemistry begins, as indeed it deserves, to be cultivated by learned men who before despised it; and to be pretended to by many who never cultivated it that they may be thought not to be ignorant of it".

And what is the position today? The leather apron has become the overall, the dirty hands are still dirty and the individual chemist, especially in industry, for the most part is called upon to do all those things which all the other employees either cannot, or will not do.

It is interesting to note that the public appreciation of chemistry is still symbolized by the retort and test tube, though the microscope is getting a hold in the field, but in truth chemistry is so all-pervading and is the strength of so many industries, many of them not looking at all like chemical industries that the mere mass effect is bound to tell in the end.

Even so, in many of these industries, whilst the chemist is the worker bee and while so much depends upon him, he scarcely holds his own with the commercial men and the aspiring captains of industry.

Somebody years ago invented the wisecrack that the expert should be on tap and not on top; as a wisecrack it has been plugged and plugged and plugged to the great disadvantage of the profession of chemistry in England. One has to admit, of course, that a good many men who practice chemistry should never have been allowed to start any more than everybody who reads history should be regarded as a potential practicing historian. This is partly due to the fascination of school chemistry, what the English schoolboy calls "stinks, flashes and bangs" or just "stinks" for short. If the boy reaches the second stage when he really enjoys the jigsaw puzzle aspect of organic chemistry then he is certainly on the way. The tragedy is that a large proportion do not go very far but one cannot say

that they do not go as far as they deserve.

Looking at the matter from another angle, some express regret that much good chemical work of the 20th Century has been done by physicists. That started with Lord Rutherford and his colleagues, and I remember once listening in, as it were, to a discussion in which he was being railed at for deserting chemistry, or rather for describing himself as a physicist. I do not remember the details but he did not seem to mind very much and I should say that he took the view that "a rose by any other name. . ."

Nevertheless there is something in the idea that chemists and chemistry have lost the pass to the atomic age; there is no doubt now that the physicists are the bright boys and they are enjoying themselves immensely on the atomic band wagon.

Even before the war it was much more difficult to secure the services of a physicist than a chemist and certainly the physicists have had most of the limelight in the recent disturbances. There are some of us, however, concerned with industrial research who pray and hope that some day soon one or two young physicists will condescend to look at the properties of matter as we find it and not be so busy smashing it.

*The mechanism of organization:* Although well removed from the purview of the majority of chemists, one cannot review the list of learned So-

cieties in Britain without starting with the Royal Society, the stronghold and the prize of the academic men about 450 strong; though not the oldest by date of foundation, it can claim a longer continuous life than any other academy of sciences in the world.

Its origin dates back to the Civil War and it received its Charter from Charles II in 1662 for "the improvement of natural knowledge." It is and always has been independent of State control but it has always had most intimate relations with the State and never more than now. Chemistry of course is only one of the sciences within its ambit and the Society has a British National Committee for Chemistry mainly for dealing with the international union.

Who then speaks for Chemistry?

The Chemical Society which is just now celebrating its centenary; the Society of Chemical Industry somewhat younger and originally a breakaway from the Chemical Society presumably because the purists of the time would not stomach the development of applied chemistry. You in the U.S.A. are to be congratulated on having carried your American Chemical Society happily over that hurdle and preserved the one organization.

The Institute of Chemistry was established in 1877 to provide the Government and the public with the means of recognizing those who have

been properly trained and proved to be competent to practice chemistry as a profession. In 1885 the Institute was granted a Royal Charter with authority to grant certificates of competency and to register persons qualified to practice. Under the provisions of the Royal Charter the Fellowship is recognized by the letters F.R.I.C. (formerly F.I.C.) and the Associateship by the letters A.R.I.C. (formerly A.I.C.) The three chartered bodies have for long worked closely together and indeed the list of Past Presidents show clearly how the great men of the past have been content to serve one, two and possibly all three of the bodies in turn.

There is also the British Association of Chemists which aims to do certain things, normally the function of the Institute but at a lower level; this organization is now going down the trade union path. Then there are a multitude of specialist societies catering for specialist groups, the Dyers & Colourists, the Oil & Colour Chemists, the Biochemists, Rubber Technologists, Chemical Engineers, and many others.

It is true that chemists work in diverse fields, but whilst provision may be made in the specialist organizations for their different technological interests, it seems to me to be a great pity that all chemists are not at least all members of one and the same organization, no matter which one took the lead. Till something like that is

a reality the official mind will continue to ignore scientific men and scientific opinions in national problems when it suits them to do so. It is true that the war has greatly exalted the scientific men but one can scarcely hope that it is permanent—after all the same thing happened after the 1914-18 war, and yet there is little doubt that British governments in the 1930's did frequently neglect scientific help. In the King's speech on the occasion of the opening of Parliament in December, 1935, it was stated that "the time has come when the existing provisions for the safety of workers in mines should be reviewed in the light of scientific knowledge." On this a Royal Commission was announced but when appointed the members consisted of: a County Court judge as Chairman, the Chief Inspector of Mines, a former Under Secretary of the Home Office, a labour M.P., the Secretary of the Mine Workers' Federation, the President of the General Federation of the Examiners & Deputies Association, and two colliery managers. There was no representative of science in spite of the importance of engineering in mining work; that the prevention of explosions is a matter of physical chemistry, or that health problems are the concern of physiologists. The whole thing which did not stand alone, provided another example of science being 'on tap' but not 'on top'. Even today the scientific and technical men

engaged in Government Departments and the Services are rated below the administrative staffs.

Some years ago the three Chartered Bodies took a step which might have gone some way towards providing that organization so much desired, namely something representing a substantial body at least more than a fraction of chemists.

They formed the Chemical Council. Its first business was to provide for the maintenance of the Chemical Library, which though still remaining the property of the Chemical Society is now a joint responsibility for upkeep and expansion. Their next work was the coordination of publications by effecting economies in administration and helping to reduce the cost of publications which are, and remain the responsibility of the two publishing Societies (C.S. and S.C.I.) and the Bureau of Abstracts. At one time the Bureau was a joint Committee of the two Societies, but it is now a separate entity, an incorporated body to which physiologists, biochemists and others give support. The coming of the Chemical Council is the last, if belated effort to discover the secret of unity. It came quietly and modestly into the world of chemistry in which the idea of cooperation, though much in mind, has not made much progress. We still hope that the Chemical Council will ultimately be able to speak authoritatively for all chemical opinion after consultation

with its associated bodies. Some of us are beginning to fear that the Chemical Council is a little sick; at least in February, 1943, a Memorandum carrying many signatures was circulated to fellow chemists asking for increased collaboration between the respective bodies in the form of a federal body to administer and guide all the main activities which concern chemists as professional men and working scientists; namely:

- (1) publications
- (2) scientific meetings
- (3) libraries, central and regional
- (4) qualification, addressed to the maintenance of a high standard of professional competence
- (5) publicity, i.e. community relationship
- (6) social security, i.e. economic position of the chemist, and
- (7) social functions

It was said that to make the Chemical Council function the following was required:

- a common secretariat
- a central house
- close cooperation

This memorandum created quite a stir but the ginger which it was hoped thereby to insert into the Chemical Council did not seem to work and a few weeks later the surface was as placid as ever—not a sign of a ripple anywhere.

We still need that crusading spirit which says: chemistry first, qualified or adjectival chemistry second, and

no lonely furrows.

There are other matters which have a bearing upon the status question—education and the distinction between scientific learning and technological learning.

It is no longer necessary to argue the case that science should be an essential part of everyone's education, and it is no longer seriously contended by specialists on the classical side that science has no cultural value. Science and particularly chemical science during the last thirty-five to forty years has been in no small measure the basis of your industrial prosperity, and of ours too, so far as it goes, just as it was of Germany in the pre-1914 period.

Concurrently with these political changes, the outlook of the chemist himself has greatly changed. In one sense his horizons have widened yet specialization to the highest degree is habitual.

The unqualified assistant has long provided a problem which seriously affects the status question. He is to the graduate or qualified chemist what the dental mechanic is to the dentist—namely an extremely useful person and the job could not be done without him. As a rule he is not the failed B.Sc. type but the type that for one reason or another never starts on and may even have no desire to pursue the normal B.Sc. course.

Qualification, recognition, and remuneration follow in that order. The



suggestion has been made recently, and there is much to be said for it, that the City & Guilds of London Institute should use the powers they have of conferring certificates (and the right to use appropriate letters after the name) to approved candidates pursuing approved courses in technology. Whether anything will come of it I cannot say, but the dilution of the status chemist by a large proportion of laboratory assistants (excellent though they may be) is bound to have a reaction on the public mind and on public appreciation.

In America I believe that quite a high proportion of Company Presidents and Vice-Presidents begin their careers as chemists. We call them Directors and not many of them are chemists and of those too high a proportion soon forget that they were chemists, which is a bad thing. It is a pleasure to record that one of our leading industrialists, Dr. Cronshaw, recently declared his faith. He said, "Such fitness as I have for this duty (lecturing on a certain subject) comes from the fact that I was trained as a chemist, still profess to be a chemist and take great pride in being so described by my friends and colleagues"—"A chemist should be proud of his profession and in love with his science. It should be a continuing interest and he must willingly accept as a burden of his vocation the responsibility of continuously keeping up with his chosen subject. It is

unfair to expect that so small an initial intellectual capital as that acquired in a few years at a University could provide so continuous an income . . . I would like his interest in chemistry to be abiding."

With such men of course, there would be no need to be discussing such a question as status—which is essentially a personality question. Our hypothetical man in the street may not be able to answer or even formulate precise questions but he is able to sense and even give expression to some of the indefinite things. He senses that the material aspects of science are not everything and that to be right, moral principles must find their place in scientific work as in other serious aspects of life. Chemists cannot expect to stand high in the appreciation of their fellow men for the technical or material services rendered without accepting equivalent obligations in the spiritual or moral sphere of human relationships.

The world of chemistry and chemists even in Britain is rather much to survey as a whole, but I should say that any fair-minded person capable of making a judgment would conclude that the status of chemists is about what they deserve—neither more nor less.

There is much to be said in thankfulness for what chemistry has done; there is much that chemists may yet do, which will redound to their great credit and satisfaction.

## Our Authors

### Dr. L. A. Jordan

Dr. Louis Arnold Jordan entered the Royal College of Science, London, as a Royal Scholar, and was graduated with first-class honors, becoming Prizeman for both chemistry and physics. During the First World War, he worked on explosives in Woolwich Arsenal and other ordnance factories. Following the war, he embarked on a program of fundamental research, closely connected with the establishment of a synthetic camphor industry in Britain. Later his researches led him to investigations of the purification of carbon monoxide on a large scale and of the oxidation mechanism of toluene sulphonamide in the saccharin synthesis. As a result of these researches he received the D.Sc. degree from the University of London.

After spending some time in India as scientific advisor to the state of Bhopal, Dr. Jordan became director of the Research Association of British Paint, Colour and Varnish Manufacturers, which will shortly celebrate its twenty-first birthday. Dr. Jordan is proud of his part in organizing and developing this research association to its high level of importance.

He has rendered much public service to the cause of science in Great Britain and has taken an active part in its technical societies. He is vice

president of the Society of Chemical Industry. He is a Fellow of the Royal Institute of Chemistry, and president-elect of the Oil and Colour Chemists' Association, of which he assumes the office of president this month.

### Dr. R. R. McLaughlin

Dr. Roland R. McLaughlin is the grandson of Robert McLaughlin, founder of the McLaughlin Carriage Company, forerunner of the General Motors of Canada, and the son of John James McLaughlin, who formulated and developed Canada Dry Ginger Ale. He was educated at St. Andrews College, Toronto, and the University of Toronto. From the latter, he has received four degrees, including the Ph.D. degree.

From 1926 to 1929, he served as research assistant at the University of Toronto, working on the chlorination of methane. In 1930 he attended Lister Institute of Preventive Medicine, London, England, as Grocers' Company research scholar. After his return, in 1931, he joined the staff of the Department of Chemical Engineering, University of Toronto, as assistant professor, becoming head of the Department in 1926.

Dr. McLaughlin took an active part in the amalgamation proceedings whereby the Canadian Section of the Society of Chemical Industry, the Canadian Chemical Association, and



## OUR AUTHORS

the Canadian Institute of Chemistry were united into the Chemical Institute of Canada, and he was elected the first president of the new organization.

His hobbies are music and silviculture.

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### Dr. C. F. Rassweiler

Dr. C. F. Rassweiler was born in Illinois, the son of a Methodist minister, whose ancestors had originally settled in Pennsylvania after migrating from Alsace-Lorraine in 1737. When he was eleven, the family moved to Colorado, and it was at the University of Denver that he received the B. S. degree. He returned to Illinois, as graduate student at the University of Illinois, taking the M. S. and Ph. D. degrees there. In 1924, he went to the Experimental Station of E. I. du Pont de Nemours & Company at Wilmington, Delaware, where he became expert on the treatment of drying oils. In 1927, he was appointed assistant director of the du Pont Experimental Section and helped to organize the central laboratory of the Paint and Varnish Section. In 1932, he became director of this laboratory, which became known as the Philadelphia Laboratory, and which pioneered the use of alkyd synthetic resins in paints, enamels and varnishes.

In 1941, Dr. Rassweiler became director of research and development of Johns-Manville Corporation. A

year later, he was elected vice president and one of the four senior officers of the corporation. He directed the firm's extensive research during World War II, and is now working on its research expansion program, which includes the erection of a large research center near Bound Brook, N. J., to be devoted to research on building materials, insulations, and allied industrial products.

He is a member of the board of Directors of the New York Section of the American Chemical Society, and belongs to the American Institute of Chemical Engineers, the Society of Chemical Industry, the Chemists' Club, and other scientific societies.

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### Taggart Resigns as Research Director

Matthew F. Taggart, F.A.I.C., has resigned as director of research of The O'Brien Corporation, South Bend, Indiana, paint manufacturers. Mr. Taggart has been connected with the O'Brien corporation for thirty years, and has contributed substantially to technical developments in the paint, varnish, and lacquer industry. He is a member of the Board of Governors of the National Farm Chemurgic Council and the American Soybean Association. His future plans include a continuation of these activities. He will also engage in special research assignments for the O'Brien Corporation.

## Our Annual Meeting

The twenty-fourth Annual Meeting of THE AMERICAN INSTITUTE OF CHEMISTS convened in the Hotel Commodore, New York, N. Y., on May second. The attendance increased during the day to a total of three-hundred and seventy-five members and guests who joined at dinner in honoring Dr. M. L. Crossley with the Institute's gold medal. (See THE CHEMIST, June issue).

The business session, presided over by Dr. Foster D. Snell, president, opened in the morning, with the presentation of the annual reports of officers, committees and chapters. (These reports appear in the May and June issues of THE CHEMIST).

A motion in memoriam to the twenty-two members who died during the year was passed.

Dr. Harry L. Fisher, chairman of the Committee to Study Membership Qualifications, presented the report of this committee and asked for suggestions from the members. Since changes in membership qualifications require an amendment to the Constitution, the suggestions made at this meeting were recommendations for the further consideration of the committee.

Dr. Raymond E. Kirk asked that the policy of substituting suitable experience and accomplishment for the advanced degrees of Fellow membership be continued.



—Chemical & Engineering News

Dr. Carl Andersen, Director of Research, Elizabeth Arden.

Dr. Lloyd Van Doren, Secretary, A.I.C.  
Irving Hochstadter, Consulting Chemical Engineer.

Dr. Snell recommended that we obtain a greater proportion of members and associates, since the INSTITUTE has tended to grow with those of Fellow qualifications rather than with those of lesser rank, and it is these latter groups who benefit most by INSTITUTE membership.

Mr. L. H. Flett, a member of the Committee to Study Membership Qualifications, stated that the only radical change contemplated by the Committee was to drop Associate membership. Since the majority of members are Fellows it seemed wrong to subdivide, into Members and Associates, the small group of non-Fellows. The INSTITUTE should bring in as Fellows all those who have distinguished themselves in their

## OUR ANNUAL MEETING

profession. The rest should be brought in as Members.

Mr. Karl M. Herstein confirmed the fact that the young chemists benefit most from the INSTITUTE's objectives, and he asked that we consider those who are just being graduated from the schools. It would be desirable to have ten times as many of the younger members as there are Fellows. We could then function effectively on a broad basis.

Dr. Crossley recommended that consideration be given to the study content of the student-chemists's curriculum. The INSTITUTE could have great influence by indicating what studies it expects the chemist to complete before he receives his degree. A certain percentage of the humanities is necessary, if the chemist is not to be illiterate. Moreover, the attainment of the degree does not guarantee that a man will become a good chemist. We must consider this when admitting such untried chemists to membership.

Mr. J. M. McIlvain suggested that these recent graduates, if admitted, should be required to attain a higher rank of membership within a stated period or be dropped.

Mr. W. J. Baeza emphasized the importance of guiding the young men and women who are just entering the industry.

Dr. Snell asked several questions to obtain informal opinion:

Should we increase or decrease the requirements for Member rank in the Institute? The vote was in favor of decreasing the standards for member.

Mr. Herstein moved that: It should be the sense of this meeting that there will be a lowest grade of membership, to be defined as that which will accept a graduate with a B. S. degree from an accredited college. If the young chemists in this grade do not qualify for the grade of member in a term of years, they should be dropped. The motion was carried. The name of this grade was not decided upon.

Dr. Snell announced that the proposed coalition between THE AMERICAN INSTITUTE OF CHEMISTS and the American Chemical Society was dropped by action of the Council of the American Chemical Society. A letter concerning the outcome of the coalition, written by Alfred Seely Brown, F.A.I.C., was read.

A motion of appreciation to the editor of THE CHEMIST for excellent work was passed.

A vote of confidence and thanks were extended to President Snell for all the negotiations and effort which he had personally expended on the proposed coalition.

The Status of the Chemist in Great Britain, Canada, and the United States, was discussed by Dr. L. A. Jordan, Dr. R. R. McLaughlin, and



—*Chemical & Engineering News*

R. C. Jeffcott, former official, Calco Chemical Division.

Dr. L. A. Jordan, Paint Research Station, Teddington, England.

Dr. Joseph Mattiello, Vice President, A.I.C.

Dr. Frederick A. Hessel, Treasurer, A.I.C.

Dr. Clifford F. Rassweiler, (these papers appear in this issue of *THE CHEMIST*.)

The afternoon business session was opened with a vote of thanks to these speakers for their excellent presentation of the subject.

The election of Dr. E. H. Northey, Dr. L. T. Work, and Mr. L. H. Flett, as councilors to serve for three-year terms was announced.

Dr. Snell announced that the INSTITUTE would undertake a membership campaign, with the slogan:

**More Members— More Budget—  
More Accomplishments.**

Mr. Flett asked each member to bring in one additional chemist this year, thus doubling the membership. He stated that we do not need more members to improve our membership, because at present anyone can take pride in the fact that he is Fellow or

Member or Associate of the INSTITUTE. We need more members so that we can do more things; benefit a larger group. We need to increase the number of Chapters. A chapter formed by a group of interested people, into which are invited the best chemists in that vicinity, constitutes a strong unit of influence in that area.

Mr. Anthony J. Orlando and Mr. Nathaniel Langsam submitted a "Three Year Plan for the American Institute of Chemists." It embodied four proposals, which may be summarized as: (1) To initiate an intensive membership drive with an ultimate goal of 20,000 members in three years. (2) To organize student chapters in the colleges. (3) To lease or purchase a suitable building as headquarters for the INSTITUTE. (4) Changes in the publication, including an increase of its circulation to 50,000.

Dr. Kirk commended the authors of this plan for their enthusiasm and interest in preparing it for the attention of the annual meeting. He urged that other members of the INSTITUTE express their ideas and opinions. The INSTITUTE profits greatly from these suggestions which come from the membership.

Upon motion, the Three Year Plan was referred to the National Council for study and implementation, with the provision that those parts pertaining to a membership drive be referred to the Committee on Membership.

## OUR ANNUAL MEETING



—*Chemical & Engineering News*

Dr. Foster D. Snell, President, A.I.C.  
Dr. A. J. Hill, Director, Sterling Chemistry Laboratory, Yale University.

Dr. C. F. Rassweiler, Vice President, Research and Development, Johns Manville Company.

Mr. H. F. Frank, chairman of the Northern Ohio Chapter, reported that the activities of his Chapter during the year were curtailed considerably awaiting the outcome of the proposed coalition. This Chapter for the coming year needs good speakers and an increased membership.

Dr. Paul Allen, Jr., vice chairman of the New Jersey Chapter, discussed the membership activities of that Chapter. A novel program for interesting the young chemists was undertaken during the year. The Chapter decided that the ordinary meetings were not encouraging to young chemists, who came, listened to the speaker, and departed without meeting anyone and without taking part in the discussion. It was decided to invite a small group of these young chemists to an informal meeting held at the home of one of the older members. Though these informal meetings are not called discussion groups, they actually fulfill that

function. They are designed to encourage the young men to get acquainted with the older men and to take part in open discussions on some interesting subject. These group meetings proved to be quite successful. There was no hesitation on the part of the younger men who entered heartily into the spirit of the meeting. It is planned to hold similar meetings bi-monthly.

Mr. Frank reported that the Northern Ohio Chapter had found that a Welcome Committee, which called on new members, was very effective in acquainting members with each other.

Dr. Eduard Farber, chairman of the Washington Chapter, emphasized that more attention should be called to the benefits which come from the personal and professional contacts made by a chemist when he becomes a member of the INSTITUTE. We have been too abstract about this real value and we have not called it to the attention of the younger chemists. Many young chemists have lots of problems, such as how to get along with their associates, their superiors, or their assistants, among other things. The older, established chemist should descend from the heights of his wisdom and talk about his experiences in the profession. Usually the young men learn about older men's experiences when someone is awarded a medal. Even then, they do not learn about the medalist's difficulties, nor



—*Chemical & Engineering News*

F. M. Fargo, formerly of Calco Chemical Division.  
S. C. Moody, Vice President, American Cyanamid Company.  
Dr. H. M. Wriston, President, Brown University.

why he solved or was unable to solve a problem.

Mr. Nydick called attention to an act passed by the New York Legislature amending the penal law in respect to obtaining animals for experimentation, with authority vested in the commissioner of health. The biochemical laboratories report that the law is unsatisfactory. He asked that the INSTITUTE undertake to see that proper regulations are framed and made a part of the code of law. The biochemists, who are not in industry, should have the support of the INSTITUTE. They seem to have been somewhat overlooked in favor of the industrial chemist. Mr. Nydick was asked to present the matter at the next meeting of the Council.

Dr. Donald Price stated that we have before us an educational task, to teach the young men that the profession is ultimately going to be just what they make it, and thus it can be what they want it to be, if they be-

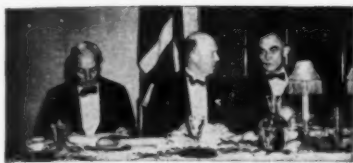
long to their professional INSTITUTE. This is an opportunity to educate our own members as to the correct viewpoint toward the profession.

Dr. Joseph Mattiello, vice president of the INSTITUTE, heartily seconded Dr. Price's words. We should ask the young men to come to us and let us assist and advise them. He recounted some of his early difficulties and the invaluable help which he received from contact with other chemists. He emphasized that often a small group can be as effective as a large group, and that when lecturing, he would speak just as willingly to a small group, which if interested, is frequently powerful.

Dr. Snell recommended a Chapter program which would feature not more than three or four outstanding meetings a year on strictly professional subjects.

Dr. H. A. Neville, head of the Department of Chemistry and Chemical Engineering at Lehigh University, pointed out that since the INSTITUTE is worthwhile to more than 2000 members, it is surely worthwhile to that many more. His university tries to inculcate the professional attitude of science into its technical students. Teachers must consider themselves first as members of the teaching profession as well as members of the chemical profession, but if they are convinced that the objectives of the INSTITUTE are worthwhile, they will cooperate.

## OUR ANNUAL MEETING



—*Chemical & Engineering News*

Howard S. Neiman, Honorary Secretary, A.I.C.

Dr. R. R. McLaughlin, Head, Department of Chemical Engineering, University of Toronto.

Victor Bartram, Shawinigan Chemicals, Inc.

Another member, who did not identify himself, stated that he was shocked by the absence of professional consciousness among most students. The professor has all he can do to teach the subjects assigned to him. He is charged with a sense of responsibility for the advice which he gives to a student.

Mr. Flett called attention to one of the most constructive reports ever issued, that entitled "The Employed Chemist and His Employer," prepared by our Committee on Employer-Employee Relationships.

Dr. Gustav Egloff, past president of the INSTITUTE, stated that for five years he has been sending copies of matters pertaining to the professional side of various groups to the chapters of the INSTITUTE, the sections of the ACS, various other societies and organizations. Any legislation affecting chemists which may be introduced in Washington affects the professional life of every one of us. The chemist

is just one part of the professional structure. There will come a time when all of the scientists of the United States will be tied together so that they will do a far greater job. For this reason, the affiliation between the AIC and the ACS would have been desirable. Ninety per cent of chemists are individualists, which is commendable.

Dr. Mattiello spoke on the tremendous benefit which he obtained through his association with older chemists. He recommended that the chapters form committees to go out and get acquainted with the younger chemists. When he first entered the paint industry, the chemist had an inferior position so far as recognition was concerned. Today, the chemist is an integral part of this industry, and the technical level of the paint industry has been greatly elevated.

Someone asked for a definition of "profession." He was answered by Dr. Snell, "The thing inherent in a profession is that the individual does things as differentiated from their being done by any one of a series of equivalent persons. You cannot put a price on the individual, for his price depends upon his personal capability."

A vote of thanks was extended to the officers, councilors, committees, chapter chairmen, chapter officers, the staff of the INSTITUTE, and to all those members who gave time and effort to carry on the work of the INSTITUTE during the fiscal year.



# Memorandum

## Regarding H. R. 2520—the Michener Bill

**Joseph F. Padlon, F.A.I.C.**

**Patent Lawyer—New York, N. Y.**

*The AIC National Council asked Mr. Padlon to prepare this memorandum  
for the information of Institute members.*

A BILL, numbered HR 2520, has been presented to the 80th Congress by Representative Michener. This is a bill to increase the fees in the United States Patent Office thereby amending Section 4934 of the Revised Statutes.

A comparison of the proposed schedule of Patent Office fees and charges with present fees and charges is presented hereinbelow:

	<i>Proposed</i>	<i>Current</i>
On filing each original application for a patent, except in design cases .....	\$ 50.00	\$30.00
On filing each claim in excess of twenty .....	1.00	1.00
On issuing each original patent except in design cases .....	50.00	30.00
On issuing each patent in excess of twenty .....	1.00	1.00
In design cases: For three years and six months. . .	20.00	10.00
For seven years .....	30.00	15.00
For fourteen years .....	60.00	50.00
On every application for the reissue of a patent. . .	100.00	30.00
On filing each disclaimer .....	10.00	10.00
On an amendment after the notice of allowance of an application .....	10.00	....
On appeal for the first time from the primary examiners to the Board of Appeals .....	25.00	15.00
For uncertified printed copies of specifications and drawings of design patents—per copy .....	.10	.10
Other patents—per copy .....	.25	.25
For copies of records made by the Patent Office, excluding printed copies—per hundred words. . .	.10	.10
For copies of drawings: Price shall be fair and reasonably related to the cost of reproduction as determined by the Commissioner .....		Same
For each certificate .....	1.00	.50
For recording every assignment, agreement, power of attorney, or other paper not exceeding six pages or less .....	3.00	3.00
For each additional two pages or less .....	1.00	1.00



# MEMORANDUM REGARDING H. R. 2520

For each additional patent or application included or involved in one writing, where more than one is so included or involved—additional fee.....	1.00	.50
For abstracts of title: For the search, one hour or less, and certificate .....	\$3.00	\$3.00
Each additional hour or fraction thereof.....	1.50	1.50
For each brief from the digest of assignments of two hundred words or less .....	1.00	.50
For title reports required for office use.....	3.00	1.00

The following questions are submitted for consideration by the membership of THE AMERICAN INSTITUTE OF CHEMISTS:

Should the fees be increased as proposed, what substantial effect, if any, would this increase in fees have on the inclination of the average independent inventor and the smaller manufacturer to file and prosecute patent applications, make infringement and validity searches and title reports, etc.?



## Merck Research Awards

The National Research Council has announced five awards under a \$100,000 fund established by Merck and Company, Inc., to provide promising young scientists with research training in chemistry and biology.

The recipients are: Joseph Lein, New York, N. Y., for study at California Institute of Technology on the specificity of enzymes produced by mutated and non-mutated genes in *Neurospora*; Nevin Stewart Scrimshaw, Rochester, N. Y., for study at the University of Rochester of factors associated with toxic complications of pregnancy and fetal abnormalities; Lorin John Mullins, Palo Alto, Calif., for work at Naples (Italy) Zoological Station on the experimental modification of permeability phenomena in marine vertebrates; Arthur Beck Pardee, Pasadena, Calif.,

for researches at the University of Wisconsin in general physiology and related fields; and B. Roger Ray of Nampa, Idaho, for work at Rockefeller Institute for Medical Research, New York, N. Y., on the determination of movements of salts through certain nonaqueous solutions by means of high speed centrifugation.

## Civil Service Examination

The U. S. Civil Service Commission, Washington 25, D. C., announces an examination for probational appointment to the position of Intelligence Specialist (Grades P-6 to P-8), \$7,102 to \$9,975 a year. Experience is required in the fields of social or physical sciences. Applicants will be rated on experience without written test. Information may be obtained from the Commission.

## Volwiler Awarded Honor Scroll

Dr. Ernest H. Volwiler, executive vice president of Abbott Laboratories, has been awarded the 1947 Honor Scroll of the Chicago Chapter of THE AMERICAN INSTITUTE OF CHEMISTS. Dr. C. A. Johnson, chairman of the Chicago Chapter, announced that Dr. Volwiler was being honored for his large number of contributions to the field of medicinal chemistry, for his outstanding work in the organization of research programs, and for his active part in furthering the work of scientific societies. "His far-reaching concepts of what can be done through scientific research have been an important factor in the success of his own company and also have helped set the research pattern for the pharmaceutical industry."

Dr. Volwiler was born in Hamilton, Ohio, studied at Miami University, Ohio, and received the Ph.D. degree from the University of Illinois in 1918. His scholastic honors include Phi Beta Kappa and Sigma Xi. He became chief chemist of Abbott Laboratories in 1920, and was made director of research and also a director of the company in 1930. In 1933 he became vice president in charge of research and development, and in 1946, executive vice president.

He has been active in the American Chemical Society, the American Drug Manufacturers Association, the Chicago Chemists' Club and the American Pharmaceutical Association. In 1940 he received the Modern Pioneers Award granted by the National Association of Manufacturers, and in 1946 was given the honorary D.Sc. degree by Miami University.

He has contributed to chemical and medical journals many articles on medicinal chemistry, hypnotics, antiseptics, and local and general anesthetics. He holds many patents for medical compounds.

The presentation of the award will be made at the fall meeting of the Chicago Chapter.

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### Miss Wall Returns to Consulting Work

Florence E. Wall, F.A.I.C., after five years as a technical editor for various companies, has recently left Evans Research and Development Corporation, New York, N. Y., to return to consulting work. She expects to do general technical writing, specializing, as previously, in research and writing on cosmetics and cosmetology. New address: 155 East 49th Street, New York 17, N. Y.



## COUNCIL

### OFFICERS

*President, Foster D. Snell*

*Vice-president, Joseph Mattiello*

*Honorary Secretary, Howard S. Neiman*

*Secretary, Lloyd Van Doren*

*Treasurer, Frederick A. Hessel*

### COUNCILORS

M. J. BAHNSEN, *Northern Ohio*

L. V. CLARK,

*Western Pennsylvania Chapter*

MARTIN DESIMO, *Chicago Chapter*

GUSTAV EGLOFF, *Past President*

EDUARD FARBER,

*Washington Chapter*

EDGAR W. FASIG,

*Miami Valley Chapter*

HARRY L. FISHER, *Past President*

LAWRENCE H. FLETT, *At-Large*

DONALD B. KEYES, *At-Large*

RAYMOND E. KIRK, *At-Large*

HAROLD A. LEVEY,

*Louisiana Chapter*

HERMAN MAISNER,

*Los Angeles Chapter*

J. M. McILVAIN,

*Pennsylvania Chapter*

JOHN J. MISKEL,

*New York Chapter*

E. H. NORTHEY, *At-Large*

FRANK S. MITCHELL,

*Niagara Chapter*

DONALD PRICE, *At-Large*

G. L. ROYER, *New Jersey Chapter*

NORMAN A. SHEPARD, *At-Large*

MAURICE SIEGEL, *Baltimore Chapter*

W. D. TURNER, *At-Large*

LINCOLN T. WORK, *At-Large*

JAMES R. WITHROW, *At-Large*

### May Meeting

The 237th meeting of the National Council was held May 2, 1947, at noon, in the East Ballroom of the Hotel Commodore, New York, N. Y. President Foster D. Snell presided. The following officers and councilors were present: Messrs. S. R. Brinkley, G. Egloff, E. Farber, H. L.

Fisher, L. H. Flett, F. A. Hessel, D. B. Keyes, R. E. Kirk, J. Mattiello, J. M. McIlvain, H. S. Neiman, D. Price, M. Siegel, F. D. Snell, W. D. Turner, and L. Van Doren. A. J. Nydick, M. L. Hamlin, L. A. Jordan, and V. F. Kimball were present.

The Secretary reported on the status of the current membership. Al-

though there was a net loss during the year of 24 members, it was pointed out that no membership solicitation was employed, awaiting the outcome of the proposed coalition, and that 22 deaths occurred during the year.

The Secretary read a letter from The American Institute of Accountants concerning H. R. 2657, together with a statement in opposition to the bill in its present form, as filed by the American Institute of Accountants. This letter and its enclosures were referred to the committee appointed at the previous meeting of the Council to consider a case involving an accountant in the Supreme Court of the State of New York. This committee consists of Dr. Donald Price, chairman, Dr. Donald B. Keyes, and Mr. A. J. Nydick.

Upon motion, the Treasurer's report and the Auditor's report for the year were accepted.

Mr. Siegel, speaking for the Baltimore Chapter, asked why so many councilors came from New York. The Council informed him that it prefers to have more representation from other parts of the country. This situation arises from the fact that there are more members in the New York area and they are apt to vote for those whom they know personally. The Council also felt that perhaps the membership does not realize that the Chapter representatives are councilors and that their vote counts

equally with those of the other councilors-at-large. It was suggested that, hereafter, in making lists of the councilors, they be listed alphabetically with the words "Blank Chapter" or "at-large" after each name. Twelve Councilors at the present time are from twelve different sections of the country. Dr. Kirk suggested that other members follow his plan of voting: Vote for one person from his area and give the other votes to other nominees from different areas. The Council has more members now than it had when the INSTITUTE had fewer chapters, and the situation will improve steadily in the future, when more members are obtained and more chapters are formed.

Dr. Egloff called attention to complaints that too many national meetings were held in New York. The Council stated that it was open to invitation from Chapters in other areas for the next Annual Meeting.

The Secretary announced the election of the following new Councilors to serve from May 1947 to May 1950; Dr. E. H. Northey, Connecticut; Dr. Lincoln T. Work, New Jersey, and Mr. Lawrence H. Flett, New York.

The following members of the INSTITUTE are expected to attend the chemical meetings to be held in London, England, this July: Dr. Foster D. Snell, Mr. Walter J. Murphy, Col. Marston T. Bogert, Dr. Gustav Egloff, and Dr. M. L. Crossley. The

## COUNCIL

Secretary was asked to request these members to serve as representatives of THE AMERICAN INSTITUTE OF CHEMISTS there.

Dr. Farber reported that the Washington Chapter will hold a meeting in May for discussion of the new Science Foundation legislation. He suggested that the INSTITUTE take a stand on this matter, as it appears that the bills before Congress do not go into the deep problem set up at present by National Science Legislation. The Washington Chapter members have written to a number of Senators concerning this, and Dr. Farber has sent his comments to the American Chemical Society. Upon motion, the Council delegated to its Committee on National Legislation, which consists of Dr. L. N. Markwood, chairman, Dr. Gustav Egloff and Dr. Eduard Farber, the authority to take appropriate action on behalf of the INSTITUTE on the bills concerning a National Science Foundation.

Dr. Snell reported that he is sending a letter to the members of the INSTITUTE explaining the outcome of the coalition, and asking their cooperation in securing new members.

The following new members were elected:

### Fellows

**Celmer, Ralph Frank**

*Chemist, The Taylor Wine Company, Hammondsport, New York.*

**Kamins, Jacob L.**

*Senior research chemist, Biochemical Division, Interchemical Corporation, Union, N. J.*

### Member

**Holihan, John Vincent**

*Plant Control Chemist, Oakite Products Company, New York, N. Y.*

There being no further business, adjournment was taken.

## Chapters

### Niagara Chapter

*Chairman, C. E. Entemann*

*Vice Chairman, James Ogilvie*

*Secretary-Treasurer, James J. Pal-lace, S. J. Canisius College, Buffalo 8, New York.*

*Council Representative, Frank Mitchell*

*Delegate to Technical Societies Council, Lothar Sontag*

Dr. Louis C. Kress, director of Roswell Park Memorial Institute at Buffalo, addressed the Niagara Chapter on June fourth on "Chemistry—Ally of Cancer Control." As New York State Director of State Clinics and Institutions for Study and Treatment of Cancer, Dr. Kress was able to give a very personal account of the subject.

The role of chemistry is two-fold: It functions as an aid to surgery and provides palliatives in itself. The presence of abnormal blood constituents frequently gives diagnostic evidence of the presence and nature of cancer. Biological chemistry also pro-

vides complete data on an individual patient's normal blood constituents. By artificially maintaining such an analysis during and immediately after surgery, operative procedures requiring as long as seven hours permit the application of techniques previously impossible.

Chemistry also provides an efficacious direct treatment for skin cancer. A paste containing zinc chloride is applied directly to the area affected. Subsequent applications are made as indicated by direct examination of the cell tissue involved. Complete removal of the cancerous growth is obtained without unnecessarily excising normal tissue.

The use of radioactive isotopes and other fission by-products for treating

cancer has been undesirably over-advertised by the press. Some hopeful, but unformed, laymen are refusing the aid of surgery in the belief that they will soon be able to buy a pill of  $C^{13}$ , or equivalent, which will cure this disease. The use of such materials must await much further study. The much heralded use of radioactive phosphorus, for example, has been found to give only temporary control.

Dr. Kress stated that a primary cause for delayed progress has been the inability of research institutions to compete with industry in securing able personnel. The State legislature has been very cooperative in providing the necessary mechanical facilities.

## Comment

### Favors Coalition

*(This letter was read at the Annual Meeting of the A.I.C.)*

**Dr. W. A. Noyes, Jr.**

*The American Chemical Society*

**Dr. Foster D. Snell**

*The American Institute of Chemists*

I was very sorry to learn that coalition between the A.I.C. and the A.C.S. was not passed by the A.C.S. Council at Atlantic City. After asking several councilors, why this proposal was rejected a feeling of confusion persists. It is my impression

that an antagonistic spirit has crept into the discussions and that there has been inadequate preparatory work in resolving differences which were certain to arise. This situation must be corrected.

As a major premise we state that both the A.C.S. and the A.I.C. serve chemists. We note that there are many chemists who feel that much remains to be done in developing their profession, who consider that the A.C.S. has been slow in recognizing this need and that the A.I.C. has been ineffective. When one considers

#### COMMENT

the demonstrable services rendered by both organizations, the commendable support accorded by chemists to each organization, a statement of deficiencies should be considered as constructive insofar as it leads to still further improvement. It is obvious that the creation within the A.C.S. of a Division interested in professional problems would meet many of these needs if it operated simply as does any other division by providing programs, discussions, and special meetings devoted to professional problems. It is equally obvious that the membership and experience of the A.I.C. would be valuable in the initiation and operation of such a division. The simultaneous existence of both such a Division and the A.I.C. would result in confusion, destructive competition, and a lowering of morale.

The benefits of coalition are great. The A.C.S. would gain strength in meeting the professional as well as the scientific needs of its members. Division of effort and loyalty on the part of the societies' members would be eliminated. The A.I.C. would gain a wider audience by using C.E.N. pages and could cut its costs. In general, combination of services with elimination of duplicated effort would permit a tremendous reduction in A.I.C. dues and an increase in membership (divisional and probably A.C.S. also).

It seems necessary to comment on several specific questions. Remem-

bering the origin of the A.I.C. (at least as I have been told), this group may fear A.C.S. authority. At the same time the A.C.S. may be afraid that the Institute Division would dominate the A.C.S. Each organization will have to take its chances, recognizing that each will contribute to its prime objective—service to chemists—by this coalition.

Graded membership has been reported to be a barrier to the coalition. This, despite the existence of different grades of membership in *both* organizations! The point has been made that a profession has only one grade of member, the professional. Let us abandon our petty vanity (whatever the name under which it is sold) and bring chemists together on ONE profession.

The fate of the A.I.C. chapters has caused some worry. It is suggested that these groups operate as divisions within the appropriate A.C.S. sections much as other divisional groups in some large sections, or as a subsectional geographical group now operating in at least one section.

We chemists have so much to gain from the coalition of the two societies that the detailed differences must be resolved. After all, we expect continued growth and recognize the possibility of change when it becomes necessary.

This letter is motivated by the hope that you, the presidents of these or-



ganizations, will take suitable action, if you have not already done so, to explore further the possibility of this coalition.

—ALFRED SEELY BROWN,  
F.A.I.C.

### To Dr. Foster D. Snell:

Here are some reflections coming as an aftermath of our annual A.I.C. meeting—incidentally one of the most interesting and constructive I have attended.

First, the correspondent, whose letter you read at the first session, spoke of the A.I.C. as "ineffective", and you remarked that he was "pulling no punches."

In comparison with what the INSTITUTE might do, and in spite of its positive accomplishments, there is ground for calling it "ineffective." It seems to me that some serious self-analysis is in order with the aim of developing a fresher and more useful view of present and future possibilities.

In my opinion there are two main reasons why the INSTITUTE has failed to realize its full potentialities:

1. The average member, whatever his grade, has no sense of participation in the activities of the INSTITUTE.

2. The INSTITUTE has neither offered adequate leadership nor achieved outstanding results in matters that are of immediate and vital

importance to its rank-and-file members.

As to 1: The *average* member pays his dues, attends two or three meetings or none at all, and skims THE CHEMIST. That is the sum of his activities, whether Fellow, Member, or Associate. He does not take part in discussions, does not write to or for THE CHEMIST, has no contact with the development or determination of policy. He is merely told that the INSTITUTE is good for the profession, and with an unenthusiastic "I suppose so", he sends in his check.

I don't know where the fault lies, but this could be an unhealthy situation. In part, I think, the individual chemist is to blame in not being as socially and professionally conscious as members of some other professions and so not taking the initiative in correcting this state of affairs. But in part also, I believe, the organization of the INSTITUTE is at fault. Its units are too big and their procedure too formal.

For two years as chairman of the New York Chapter, I tried to get open discussions of professional questions at Chapter meetings. I asked for comments from the floor as points came up. The result in most cases was resounding silence. I came to the conclusion that chemists, for two or three reasons, just won't speak up in meeting, if the meeting is a big one.

For this reason, I think the move

## COMMENT

of the New Jersey Chapter, announced by Professor Allen, of organizing small group meetings where the boys can let down their hair and say what they think, is both important and constructive. It should be developed and extended in all areas.

Supplementing this, I believe there should be developed in THE CHEMIST a correspondence department or discussion forum in which A.I.C. members are invited to express their views on professional matters. *Pencil Points* had (and may still have) an exceedingly interesting department of this kind in which discussion was ardent and intelligent, and in which architects of all grades took part, from junior draftsman to senior partner. Chemists should do as much.

As to 2: The members of the INSTITUTE have been bidden to do obeisance before the great god Licensure. Now I am for permissive licensing. I think it will benefit the profession and the public, and I think the INSTITUTE should continue to work for it. But licensure won't buy shoes for baby this week or next month, and when we get licensure we'll still have a lot of problems. Licensure is good but not good enough to add a few thousand rootin' tootin' new members to the roster.

Most chemists are employees. I believe the three things that concern them most as professional employees are: (a) a reasonable salary; (b) reasonable continuity of employment;

(c) being treated as human beings and responsible professional men.

The salary situation today is not what it should be. It is probably inflated for the junior grades and inadequate for many of the upper grades. It is not, however, bad enough to be a fighting issue.

But serious abuses exist in some quarters as to continuity and personal treatment. When, for example, to maintain a favorable profit and loss balance for a given quarter, half the research and control chemists of a concern are fired because of an error in judgment on the part of the sales department, violence is done to the sense of justice and professional dignity of those chemists and most of them suffer serious economic loss to boot. This sort of thing has happened and probably will happen again. Something should be done about it.

I believe the most constructive step taken by the INSTITUTE recently was the publication by Dr. Northey's committee of the two reports on unemployment conditions and on separation allowances. But these moves should be looked on only as a beginning and should be followed up vigorously.

The most encouraging thing about the annual meeting seemed to me to be the new note you sounded in urging a more balanced membership by building up the ratio of Members to Fellows. There is no doubt that such a development would greatly

strengthen the INSTITUTE and do so in a healthy way.

With a revitalized program the fundamental appeal the INSTITUTE can make to chemists is, "The INSTITUTE is your instrument for advancing the well-being of the profes-

sion. Join it and use it." This is also the answer to the boys who only ask, "What do I get out of it?"

Yours for a bigger and better INSTITUTE,

—DR. MARSTON L. HAMLIN,  
F.A.I.C.

## Proposed Coalition of the AIC and ACS

K. J. Frederick

*Reprinted from The Syracuse Chemist*

The proposed coalition of the AIC and the ACS has been widely and vigorously discussed on all fronts and in principle at least has been well received in all quarters. It was a bitter disappointment to the writer, therefore, to see this matter receive such inadequate treatment at the Council meeting in Atlantic City. There were some, notably Dr. Gustav Egloff and Dr. D. B. Keyes, who spoke up in favor of the coalition in very strong and commendable terms, but, unfortunately, their efforts proved of little avail. The pressure of time brought about by a most necessary, but very drawn-out, discussion of the Hancock Report, coupled with the apparent determination of many to kill the whole question no matter what the cost, combined to produce the inevitable result—viz., rejection of the proposal.

Officially, the rejection will go on record as having been brought about by the refusal of the Council to approve in principle the setting up

of graded membership within a Division of the Society. Without graded membership the AIC understandingly will not and cannot play ball. The crux of the matter resides then in the question of whether this whole subject of graded membership was adequately aired and the real benefit to *all* members of the Society of such a plan understood before the killing vote was taken. The writer is quite convinced that such was not the case and trusts therefore that opportunity will be afforded at a later date to consider the whole proposition in a fair and unprejudiced light. The matter really deserves a vote of the membership of the Society as a whole, rather than a vote of Council alone.

Unfortunately, the writer cannot help but feel at times a bit pessimistic about this whole question. Although he hates to accept the conclusion, it seems to him to be becoming increasingly evident that, despite the very feeble efforts which have been made up to this time and notwith-

standing the token advances which are bound to come in the immediate years ahead, the ACS may never become the sort of professional society its members wish and need. There are simply too many basic obstacles in the path which have blocked and which will continue to block effectively all efforts along this line. These obstacles stem from the particular manner in which the ACS is set up and are therefore probably insurmountable as long as the Society remains constituted as at present. The writer may be in error in thinking along these lines; he hopes he is. It must be admitted, however, that the lack of any real progress along this line during the past several years even in the face of real need and oft-expressed desires affords little comfort.

#### **Appreciates Professional Group To the Secretary:**

In these few months I have seen many advantages in being affiliated with a group which is energetically endeavoring to improve the professional status of the chemist; and the magazine, *THE CHEMIST*, brings many arguments to mind that one might otherwise fail to consider.

It is my hope that as I continue advanced studies, I will soon qualify to be raised to the status of member.

—SYLVIA MASSENBERG, *A.A.I.C.*

#### **Reprint Permission Requested To the American Institute of Chemists:**

In the March issue of *THE CHEMIST* appeared an article over the signature of Gustav Egloff entitled "Research and Management". I now ask permission from The American Institute of Chemists to quote or reprint this article in my books, "Production Control and Analysis of Cosmetics" and "The Chemistry and Manufacture of Cosmetics", both of which are being written at this time, the latter being revised.

—MAISON G. DENAVARRE,  
*F.A.I.C.*

This is to say that I think *THE CHEMIST* is getting better and better; that the articles are most constructive, and will do a great deal of good in clarifying the employment situations of professional people. I am saving all the copies for use later. . . . By the way, has anything been done to help protect the professional person who prefers to go "Free Lance" rather than to have a regular job?

—ORA BLANCHE BURRIGHT,  
*F.A.I.C.*

"The Role of the Federal Government in Postwar Scientific Activities," by John T. Connor, which appeared recently in *The Chemist*, was reprinted in the February *Activator*, publication of the Dallas-Ft. Worth Section of the American Chemical Society.

## We Must Stimulate Basic Research

Dr. Charles Allen Thomas, F.A.I.C., was awarded the medal of the Industrial Research Institute on June fifth. In his acceptance address, he stated that many of the inventions behind America's large-scale production are of European rather than of native origin. "Given the initial idea, American genius develops, perfects, and, most significant, puts production on a successful volume basis. But the imagination which created the ideas, the minds which conjured into being the basic scientific conceptions—these minds lived in a different environment from America."

Physical destruction and moral disruption have brought about a serious decline in the field of science in European nations, and this country "can no longer look to other nations for the spark which American genius can blow, tender and fan into a great fire. The originality and creativeness of American research must be stimulated to new heights, if the gap created by the European decline is to be bridged."

Two concepts of the successful research organization exist in this country. One, the highly organized, tightly knit, crystalline concept is in a strong majority. The other, a less rigid, more amorphous and flexible laboratory, is in a minority. Dr. Thomas suggested that we may be formalizing and organizing our laboratories too much. This condition

occasionally brings about an over-emphasis of equipment and an under-emphasis of men. It is time we appreciated that the men make the laboratories. If we make a household god out of hard and fast policy, we may stifle creative thinking.

We have separated our scientists into highly specialized groups. As a result, research people have little opportunity to be stimulated by men working in other fields. The effect of this strict segregation might be disastrous. As arguments against over-specialization, Dr. Thomas cited Leonardo da Vinci, Benjamin Franklin, and Sir Isaac Newton.

Do our research people have enough time to play with ideas? A man is assigned to work on a certain problem, and he is certainly not encouraged to work or think outside this framework. While this is the most efficient way to solve problems, it leaves the research worker little time for truly creative thinking. He buries his ideas. A lot of good ideas have died in confinement.

Dr. Thomas recommended a plan which has seldom been applied to the

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industrial research laboratory—a "retreat" similar to the withdrawal from tensions and demands of normal life used by some religions. Such retreats frequently have spearheaded the greatest developments in philosophy, art, and religion. Many industrial scientists are living off what may be termed "intellectual fat." Under the stress of modern industrial living, they have no time to replenish their intellectual flesh.

It would be a step in the right direction if the more progressive key men in our modern laboratories were told to organize their programs and distribute their responsibilities to subordinates so that for a period of a few weeks each year they could absent themselves from their regular duties. Allow them to spend this time as they wish, in more or less seclusion, in libraries, in other laboratories, even out in the quiet country. Indicate to them that this is time for their personal development; that ideas that may have been in the backs of their minds can now be tried. Suggest that they read the literature in their own and related fields.

The accent in the future may not be on production, but on the exploration in unknown fields of science.

The House Interstate Commerce Committee approved, July 8th, legislation to create a National Science Foundation. It has now gone to the House for action.

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## American Oil Chemists Elect

The American Oil Chemists' Society elected the following new officers at its annual meeting on May 22nd:

President: Dr. Reid T. Milner, head of the analytical and physical chemistry division, Northern Regional Research Laboratory.

First vice president: C. P. Long, chemist, Proctor and Gamble, Cincinnati, Ohio.

Second vice president: E. M. James, general supervisor of research, Lever Brothers Company, Cambridge, Mass.

Third vice president: V. C. Mehlenbacher, assistant chief chemist, Swift and Company, Chicago.

Fourth vice president: L. B. Parsons, chief chemist, Lever Brothers Company, Cambridge, Mass.

Secretary: H. L. Roschen, research chemist, Swift and Company, Chicago.

Treasurer: J. J. Vollertsen, retired chief of chemical research development, Armour and Company, Chicago.

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Dr. Lloyd A. Hall, F.A.I.C., director of research of The Griffith Laboratories, Chicago 9, Illinois, recently received the honorary degree of D. Sc. from Tuskegee Institute for "a long and distinguished career in the field of science."



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"American Standard Practice for Certification Procedures," sponsored by the Association of Consulting Chemists and Chemical Engineers, Inc., has been approved by the American Standards Association. Copies are available at thirty cents each from the American Standards Association, 70 East 45th Street, New York, N. Y.

"International Traders Manual" contains information on export, import, and other branches of foreign trade, including conversion tables for weights and measures, a trade directory, glossary of foreign words, etc. It is available at \$3.00 per copy from International Traders Manual, Inc., 51 East 42nd Street, New York 17, N. Y.

"Importance of pH Control in Wool Processing," Calco Technical Bulletin No. 778. Available from the Advertising Department, Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J.

"Studies of Wool Dyeing: Crocking," by H. E. Millson, W. H. Watkins, and G. L. Royer, F.A.I.C., Calco Technical Bulletin No. 780. Request it from the Advertising Department, Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J.

"1947 Robinson-Patman Act Symposium", papers given at a meeting of the Section on Food, Drug and Cosmetic Law of the New York State Bar Association. \$1.00 per copy from Commerce Clearing House, Inc., 2600 Empire State Building, New York 1, N. Y.

"Physiological and Clinical Studies", a new leaflet outlining the forms of physiological and clinical studies offered by Foster D. Snell, Inc., 27 West 15th Street, New York 11, N. Y.

"The Model 6A Junior Spectrophotometer", a bulletin describing a new, inexpensive spectrophotometer. Coleman Instruments, Inc., 318 Madison Street, Maywood, Illinois.

"Parlon, Hercules Chlorinated Rubber". A technical booklet discussing the properties and uses of chlorinated natural rubber. 32 pp. 8 1/2" x 11". Hercules Powder Company, Wilmington, Delaware.



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"You are the Heir of Edison", a brochure describing the aims and activities of the Thomas Alva Edison Foundation, Inc., Hotel Plaza, Fifth Avenue, New York 19, N. Y.

An industrial film, "Watts in Glass," is available for exhibition to professional groups. Information may be obtained from Owens-Corning Fiberglas Corporation, Toledo 1, Ohio.

#### **Grebe Receives John Wesley Hyatt Award**

Dr. John J. Grebe, F.A.I.C., director of the Dow Chemical Company's Physical research Laboratory, Midland, Michigan, received the John Wesley Hyatt award for outstanding achievement in the plastics industry. He was cited for his work in making possible the production of styrene pure enough for synthetic rubber and plastics.

Dr. Gustav Egloff, F.A.I.C., attended the U.S. Bureau of Mines' oil-shale demonstration plant at Rifle, Colorado, May 17th. On May 16th, he spoke before the Synthetic Liquid Fuels Advisory Group, at Glenwood Springs, Colorado, on "The Swedish Oil-Shale Industry."

Ralph W. Lamenzo, F.A.I.C., has been chosen councilor to represent Baltimore in the Federation of the Paint and Varnish Production Clubs.

The City College of New York's Midtown Business Center is conducting a comprehensive Sales Training Course in both day and evening sessions. It is sponsored by the Sales Executives Club of New York. Information may be obtained from Robert A. Love, director, Midtown Business Center, 430 West 50th Street, New York 19, N. Y.

Dr. Otto Eisenschiml, F.A.I.C., and Ralph G. Newman are writing *The American Iliad*, the story of the War between the States as depicted by eye-witnesses. Mr. Newman, a rare-book dealer, has collected accounts from obscure memoirs and histories. Dr. Eisenschiml, author of "Why Was Lincoln Murdered?", has done much research on this period of American history.

Dr. Eisenschiml recently published *The Art of Worldly Wisdom*, comprising precepts from Baltasar Gracian.

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—The Research Viewpoint

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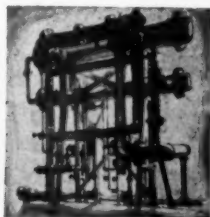
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